Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Due date:\_\_\_\_\_\_\_\_\_\_

**Objective:**

* Students will be able to use properties of kites to measure, construct, and fly a kite.
* Students will be able to find the area of kite and triangle.
* Students will be able to measure the side.

**Goal:** Your goal is to construct a kite from scratch using the properties of kites you learned in geometry class. There are various types of kites but your kite should be the shape of rhombus. You may use any resource available to you including the internet, library to find direction on building a kite.

**Property of kites:** Since you are working on a project that involves understanding of kites it is essential that you know the properties of kites. List at least four distinct properties of kite.

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

***Plans:*** Your plans must include:

* Step by step process that you used in constructing your kite
* List of materials used in the construction and the making of your kite.
* Scale drawing of your kite. Your drawing must be to scale with the scale factor clearly visible (ex. Scale Factor =??).
* A computer made diagram of the scale drawing of your kite must be included with the final report.(Can be done at home and saved on a flash drive or done on a classroom computer)

**Material:** Before you begin list any material that you will use for constructing a kite.

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_6. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Scale Drawing:** Using a pencil, ruler, and protractor create your design on next page. Make sure to provide measurement for each part. Use an appropriate scale.

Scale:

**Kite Measurements**

***All measurements must be in centimeters (nearest tenth) or degrees (nearest whole degree)***



***Segment Length***

AB = \_\_\_\_\_\_\_\_\_\_\_\_\_\_

BC = \_\_\_\_\_\_\_\_\_\_\_\_\_\_

CD = \_\_\_\_\_\_\_\_\_\_\_\_\_\_

AD = \_\_\_\_\_\_\_\_\_\_\_\_\_\_

AE = \_\_\_\_\_\_\_\_\_\_\_\_\_\_

CE = \_\_\_\_\_\_\_\_\_\_\_\_\_\_

BE = \_\_\_\_\_\_\_\_\_\_\_\_\_\_

DE = \_\_\_\_\_\_\_\_\_\_\_\_\_\_

AC = \_\_\_\_\_\_\_\_\_\_\_\_\_\_

BD = \_\_\_\_\_\_\_\_\_\_\_\_\_\_

***Angle Measure***

= \_\_\_\_\_\_\_\_\_\_\_\_\_\_

= \_\_\_\_\_\_\_\_\_\_\_\_\_\_

= \_\_\_\_\_\_\_\_\_\_\_\_\_\_

= \_\_\_\_\_\_\_\_\_\_\_\_\_\_

= \_\_\_\_\_\_\_\_\_\_\_\_\_\_

= \_\_\_\_\_\_\_\_\_\_\_\_\_\_

= \_\_\_\_\_\_\_\_\_\_\_\_\_\_

= \_\_\_\_\_\_\_\_\_\_\_\_\_\_

= \_\_\_\_\_\_\_\_\_\_\_\_\_\_

= \_\_\_\_\_\_\_\_\_\_\_\_\_\_

= \_\_\_\_\_\_\_\_\_\_\_\_\_\_

= \_\_\_\_\_\_\_\_\_\_\_\_\_\_

= \_\_\_\_\_\_\_\_\_\_\_\_\_\_

= \_\_\_\_\_\_\_\_\_\_\_\_\_\_

= \_\_\_\_\_\_\_\_\_\_\_\_\_\_

 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_

***Triangle Perimeter***

= \_\_\_\_\_\_\_\_\_\_\_\_\_\_

= \_\_\_\_\_\_\_\_\_\_\_\_\_\_

= \_\_\_\_\_\_\_\_\_\_\_\_\_\_

= \_\_\_\_\_\_\_\_\_\_\_\_\_\_

= \_\_\_\_\_\_\_\_\_\_\_\_\_\_

= \_\_\_\_\_\_\_\_\_\_\_\_\_\_

= \_\_\_\_\_\_\_\_\_\_\_\_\_\_

= \_\_\_\_\_\_\_\_\_\_\_\_\_\_

***Kite Perimeter***

ABCD = \_\_\_\_\_\_\_\_\_\_\_\_\_\_

***Triangle Area***

= \_\_\_\_\_\_\_\_\_\_\_\_\_\_

= \_\_\_\_\_\_\_\_\_\_\_\_\_\_

= \_\_\_\_\_\_\_\_\_\_\_\_\_\_

= \_\_\_\_\_\_\_\_\_\_\_\_\_\_

= \_\_\_\_\_\_\_\_\_\_\_\_\_\_

= \_\_\_\_\_\_\_\_\_\_\_\_\_\_

= \_\_\_\_\_\_\_\_\_\_\_\_\_\_

= \_\_\_\_\_\_\_\_\_\_\_\_\_\_

***Kite Area***

ABCD = \_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Your final score for this project will be calculated using the rubric below.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| http://webquests.rcoe.appstate.edu/4630_s02%20webquests/Math%20Nerds/KITEWEBQUEST/kite14.gif | Beginning  1 | Developing  2 | Accomplished  3 | Exemplary  4 | SCORE |
| The Plan. | Step by step instruction is not clear and lacking diagram. It is not possible to replicate the kite. | Step by step instruction is not clear and or lacking diagram. It is not possible to replicate the kite. | Step by step instruction is given but lacking diagram. Direction is clear and it is possible to replicate the kite. | Step by step instruction is given and include diagram for each step. Directions are clear and it is possible to replicate the kite. |  |
| Scale Drawing of Kite | Drawing is not to scale and has significant flaws. | Drawing is either hand drawn with minor flaws  ~or~  Computer generated yet has significant flaws. | Drawing is neatly hand drawn and correct   ~or~  Drawing is computer generated with minor flaws | Drawing was produced using a computer program (Geometer's Sketch Pad) and is correct. |  |
| Kite Measurement | Measurement contains 10 or more error. No work is shown. | Measurement contains no more than 6 errors. Some work is shown. | Measurement contains no more than 2 errors. Most work is shown. | Measurement contains no error. All work is shown |  |
| Building of Kite | Kite construction attempted yet no plans followed. | Kite constructed and plans followed, yet kite is not balanced and has significant construction flaws. | Kite is well constructed with plans followed, has minor construction flaws. | Kite is constructed properly according to plans, is balanced and has no construction flaws. |  |
| (Extra Credit Points)  Flight time of Kite | Kite flies briefly (at least 20 seconds) | Kite flies for at least 21 seconds but not more than 60 seconds. | Kite flies for at least 60 seconds but not more than 120 seconds. | Kite sustains flight for more than 2 minutes! |  |